

**Climatological Data for April, 1910.**  
**DISTRICT No. 11, CALIFORNIA.**  
 Prof. ALEXANDER G. MCADIE, District Editor.

**GENERAL SUMMARY.**

The month of April was, on the whole, warmer than usual and drier. A fair index of the general conditions throughout the State is afforded by the records at San Francisco, covering a period of 61 years, whereby we are enabled to compare the general character of the month with other Aprils. The present month belongs decidedly in the group of dry Aprils. Since 1906 the average frequency of rainy days in the central portion of the State has been 4; but on the other hand, in earlier years the average frequency was 6, and in certain groups of years rose to 9. In individual years there have been 10 or more rainy days, and in one year (1880) there were 17 days on which rain fell. Of this number, there were 11 consecutive days. In April, 1857, no rain fell and this condition was almost paralleled during April, 1909, when only a trace of rain fell during the entire month. As will be shown elsewhere, in discussing the snowfall, the precipitation at high levels in the State during the present April was also deficient, although greater than the amount which fell during the preceding April. The most marked general feature of the month then was its comparative dryness. The other significant feature was the continued warmth. It will be remembered that the month of March was likewise warm. In fact, the continued high temperature and deficient precipitation were noticeable over a large portion of the United States. It seems likely, therefore, that the same general controlling causes, whatever they may be, continued to act throughout April in the Pacific coast States. Indeed, during the last week of the month, temperatures were higher than ever before recorded for the same period of the year. As stated in the National Weekly Bulletin for the week ending May 2, the warm area "moved slowly eastward as the week advanced, bringing unusually high temperatures throughout the entire central and northern portions of the country as far east as the Atlantic coast by the 30th."

The 22d and 23d of April were the warmest days of the year, and at Los Angeles and San Diego maximum temperature records were broken. At the former place a temperature of 100° was recorded. At Fresno the highest temperature previously reported, 100.8° F., was exceeded, the temperature reaching 101.1°. The mean temperature for the month at Fresno was the second highest on record. Many of the cooperative observers called attention in their reports to the warm character of the month and some stated it was the warmest April on record.

There was less cloudy weather than usual and fewer pressure disturbances. The surface winds, except where determined by local draughts, were mainly from the north, and this probably explains the comparative dryness, as these are not rain-bearing winds. The first decade was one of quiet weather and normal air movement. There was nothing noteworthy until April 9, when a small disturbance developed over the Sierra. As it subsequently appeared, this was the forerunner of a general depression which caused 48 hours or more of unsettled weather over the whole coast. From April 14 until the end of the month, with the exception of brief intervals on April 27 and 30, the weather was fair and pleasant, due probably to a succession of high areas crossing the Pacific slope north of the 30th parallel. On April 22 and 23 a moderate norther prevailed. During the first 24 hours the following temperatures were reported: Los Angeles, 98°; San Diego, 94°; San Luis Obispo, 94°; and San Francisco, 86°. An interesting comparison of temperatures is the following, showing, as it does, a temperature gradient steep enough to have caused a decided indraught of air from the cooler to the warmer stations. Such result, how-

ever, did not occur. April 22, 1910, 5 p. m., San Francisco, 84°, wind 4 miles per hour from the northwest; Southeast Farallon, 54°, wind northwest, 12 miles. The maximum temperature recorded at San Francisco during the day was 86°. The maximum temperature recorded at the Farallones during the day was 56°. On April 23, during the afternoon, the temperature at San Francisco rose to 87°, which, with the exception of April 14, 1888, when the temperature rose to 88°, was the warmest April day ever recorded. At Fresno the temperature rose to 100° or slightly above; at Los Angeles, 100°, breaking the record; at San Diego, 96°. Again it is interesting to notice that at the same moment the temperatures at San Francisco and at the Farallones were, respectively, 84° and 50° and the wind did not blow from the colder to the warmer region, but exactly opposite.

The warm period was followed, as frequently happens, by fog along the coast. The temperature at San Francisco was, on the afternoon of April 24, 32° lower than at the same hour on the preceding day.

**TEMPERATURE.**

One hundred and eighty-eight stations were considered in determining the mean temperature for the State. This was 59.8°. Departures from the normal were available for 128 stations and these show that the month was 3.6° above the normal. This was the warmest April in the past 6 years. The next warmest was in 1908 when the mean temperature was 58.4°. The coldest April was in 1906 when the mean temperature was 56.3°. The highest temperature recorded at any one station during the month was 110°, at Lemon Cove, on the 24th, and the lowest 9°, at Macdoel, on the 4th. The station reporting the highest monthly mean was Bagdad, 78.8°. Other stations with a high monthly mean temperature are Mammoth Tank, 75.2°; Needles, 74.8°; Palm Springs, 73.2°; Brawley, 72.8°; and Tehama, 72.4°. The coldest station, as determined by the monthly mean, was Macdoel, 42.4°, followed by Madeline, 44.4; La Porte, 47.8°; and Alturas, 48.8°.

**PRECIPITATION.**

One hundred and eighty-nine stations were considered in determining the monthly rainfall for the State, which was 0.62 inch. The departures from the normal for 133 stations showed a deficiency of 1.40 inch. The greatest 24-hour rainfall was 2.61 inches on the 10th and 11th at Upper Mattole. The greatest monthly amount was 3.49 inches at Monumental. At 24 stations no rainfall was reported. April, 1909, had less rain than the present April. That, however, was the driest April on record, with the single exception of April, 1857.

**WIND.**

The prevailing direction of the wind was northwest.

**SUNSHINE.**

There was more sunshine than usual. At Sacramento, 319 hours; San Diego, 282; San Luis Obispo, 270; Fresno, 344; San Francisco, 319; Eureka, 149; Los Angeles, 289; Red Bluff, 206; and San Jose, 286.

**EARTHQUAKES.**

Earthquakes were reported as follows: San Diego, 11:57 p. m., on the 10th; Alameda, 6:50 a. m., on the 22d; El Cajon, midnight of the 10th; Heber, midnight of the 11th; Idyllwild, 5:30 a. m., of the 10th and 12:08 a. m., of the 11th; Priest Valley, 3 shocks on the 30th; Redlands, just before midnight of the 11th; San Bernardino, 11:57 p. m., of the 11th.

**SNOWFALL IN THE MOUNTAINS.**

April, 1910, was a month of light snowfall. Usually a moderate snowfall is recorded at all stations above a 1,000-meter

level. There is nearly always a snow covering extending down to the 1,500-meter level; while in the gulches and on mountain tops the depth of snow at the end of April exceeds several feet. April, 1909, broke the records for light snowfall during the month, the record covering a period of 10 years; but there had been heavy snow earlier in the season and the snow cover at the beginning of the month was above normal. April, 1910, had a little more snow than fell in the same month the previous year, but the snow cover was by no means so deep. The outlook, therefore, is unfavorable for an abundant supply of water during the coming season, unless there should be later precipitation. An interesting comparison of the depth of snow at the close of April for the past 3 years is recorded by the following table:

*Solid snow on the ground.*

Station.	Year.		
	1908.	1909.	1910.
Inches.	Inches.	Inches.	
Summit, Placer County.....	20	124	13
Tamarack, Alpine County.....	48	208	50

As stated elsewhere, the month was warm and the snow melted rapidly. In the Sierra foothills the snowfall was light and did not remain long after falling. By the middle of the month the snow was practically off the ground, remaining only on the northern slopes and in the deep gulches.

*Comparative table of river grades.*

River.	Length.	Descent.	Average
			fall per
	Miles.	Feet.	mile.
Mississippi.....	2,300	1,500	0.6
Ohio.....	1,000	700	0.7
Missouri.....	2,340	4,000	1.7
Connecticut.....	375	2,000	5.3
Kennebec.....	150	1,000	6.6
Rio Grande.....	1,800	12,000	6.6
Hudson.....	300	4,300	14.3
<i>Eastern.</i>			
Calaveras.....	68	1,000	14.6
Sacramento.....	400	7,000	17.5
Feather.....	136	4,678	34.4
Tuolumne.....	155	8,000	51.6
Stanislaus.....	113	8,000	70.8
American.....	118	8,500	72.0
Yuba.....	90	6,700	74.4
Cosumnes.....	93	7,500	80.3
<i>California.</i>			

**STEEP DESCENTS OF CALIFORNIA RIVERS.**

The story of the Colgate and Yuba power plants is most interestingly told by Mr. Archie Rice in the Journal of Electricity, Power, and Gas, for April 30, 1910, and the following extracts are made, by permission of the editor. This is one of the largest, as it was one of the earliest hydroelectric enterprises for the long-distance transmission of power on the Pacific slope. Power is delivered to the cities on San Francisco Bay, a distance of about 140 miles. In describing California's wealth of water power, Mr. Rice states:

To understand why it is that California is so wonderfully rich in water power you must bear in mind that there are a dozen or more rivers rushing down from sources high in the lofty Sierra. Wherever water can be diverted and made to flow gradually along the side of a river canyon and produce a single plunge of several hundred feet, there power can be developed to run an electric generating plant. How splendidly California is supplied with steep

rivers is indicated in the accompanying table, which gives the foot-drop to the mile for several well-known eastern rivers and for some of those in California. In this connection it will be recalled that the Yuba River slopes average 100 feet to the mile between the dam and the Colgate power house, and that the diverting flume is given a drop of less than 13 feet to the mile. That flume slope is much greater than is really necessary. The mighty Mississippi goes to the Gulf with a drop of only a little more than 7 inches to the mile.

The steep descent of most of the California rivers enables power developers to locate more than one plant on the same diverted water system by leading the discharged water from the upper plant down by easy gradients to some point where another big drop can be produced.

**NOTES ON THE RIVER CONDITIONS IN THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS DURING APRIL, 1910.**

*The Sacramento Watershed.*—The average of all river gage readings throughout the Sacramento Valley, as a whole, during April, 1910, fairly represented the normal condition of the streams for this season of the year. The average, on the whole, was maintained, however, as the result of rapidly melting snow in the mountains, rather than from the effects of precipitation, which was markedly deficient.

The western tributaries of the Sacramento River, and the Sacramento itself above Redding, were lower than in any April of recent years, except that of 1908, when all streams in the central valleys of California were exceptionally low.

The average stage of the Yuba River, on the east, was also considerably below the normal, having been the same as that of April, 1908. Owing to its restricted watershed this stream was the first of any importance to recede, the snows that feed its numerous forks in the high altitudes having mostly all melted by the 10th or 15th of April.

The run-off in the tributaries of the Feather River, especially its northern and middle forks, was sufficient to keep this stream moderately high during the entire month.

The American River averaged about 1 foot above the usual April stage and carried more water than it has for any April since that of 1907, when it was exceptionally full for the month in question.

At the close of the month all flood basins of the Sacramento River had practically ceased discharging, and many large areas, that usually are covered with water until the middle of May or the 1st of June, had become dry through seepage and evaporation.

The visible water supply now available for the Sacramento Valley is much less than for many years, and it is forecast that there will be a marked shortage of water during the coming summer.

*The San Joaquin Watershed.*—Except the Calaveras River, which was exceptionally low during the greater part of the month, all streams that supply the San Joaquin River averaged over 1 foot above the normal April stage. The San Joaquin itself carried more water than for any other April since that of 1907.

Owing to the unusually early melting of the snows in the southern Sierra the spring rises throughout the San Joaquin Valley began from 20 to 30 days earlier than usual, and the run-off in almost all streams during April was comparable with that of the middle of June, when the spring rises usually culminate.

The present available water supply for the entire San Joaquin watershed appears to be limited, and it is safe to predict a decided shortage of water for the coming summer and fall.—*N. R. Taylor, Local Forecaster.*

TABLE 1.—Climatological data for April, 1910. District No. 11, California.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmetted.	Number of rainy days .01 inch or more.	Number of partly cloudy days.	Number of clear days.				
Oregon.																					
Klamath Agency.	Klamath.	4,169	2	48.5		79	35	22	21†	50	0.28	-0.63	0.14	0.0	3	15	7	5	s.		
Klamath Falls.	do	4,250	15	49.0	+ 1.6	83	33	23	4	45	0.28	-1.24	0.00	0.0	0	21	9	0	nw.		
Lakeview.	Lake.	4,800	7	53.6	+ 9.9	90	35	18	5	59	0.00	-0.24	0.00	0.0	0	18	10	3	s.		
Merrill.	Klamath.	4,070	4	53.9		85	33	19	14†	52	0.03	-0.03	0.03	0.0	1	10	2	3	...		
Yonna.	do	3	47.4			81	33	18	4†	56	0.30	-0.15	0.0	0.0	3	8	19	3	s.		
California.																					
Alameda.	Alameda.	1	60.9			90	23	42	4†		0.04		0.02	0.0	3	16	8	8	nw.		
Alturas.	Modoc.	4,460	6	48.8		87	23	18	4†	59	0.26		0.14	0.0	3	17	9	4	sw.		
Anderson (near).	Shasta.	550	1	62.4		91	23†	40	3	40	0.27		0.10	0.0	4	21	7	9	s.		
Angiola.	Tulare.	208	10																		
Antioch.	Contra Costa.	46	31	68.9	+ 9.2	91	23†	52	2		0.10	-0.85	0.10	0.0	1	26	2	2	nw.		
Aptos.	Santa Cruz.	102	25	58.4	+ 3.5	85	22	47	3†		0.66	-1.23	0.51	0.0	2	19	5	6	nw.		
Arrowhead Springs.	San Bernardino.	2,000	39	61.9		99	18	40	3†	50	0.00		0.00	0.0	0	27	0	3	se.		
Auburn.	Placer.	1,360		59.5	+ 3.0	90	23	36	16	38	1.80	-1.41	1.10	0.0	3	23	6	1	w.		
Avalon.	Los Angeles.		8	60.8		92	22	48	12	29	0.16		0.16	0.0	1	23					
Axuss.	do	540																			
Bagdad.	San Bernardino.	784	7	78.8		103	26	54	11	34	0.00		0.00	0.0	0						
Bakersfield.	Kern.	404	21	69.0	+ 4.3	100	23†	45	4	41	0.00	-0.22	0.00	0.0	0	16	12	2	w.		
Barstow.	San Bernardino.	2,105	7	66.2		99	10†	38	1†	51	0.00		0.00	0.0	0	16	5	9	w.		
Berkeley.	Alameda.	317	23	57.0	+ 3.0	86	22	44	3	36	0.41	-1.43	0.34	0.0	3	16	0	3	s.		
Biggs.	Butte.	98	11	63.4	+ 6.0	89	24	43	3†		0.00	-0.99	0.00	0.0	0	27	0	3	...		
Bishop.	Inyo.	4,450	15																		
Blocksburg.	Humboldt.	1,700	4	54.8		94	24	30	3	41	1.14		0.37	0.0	5	12	9	9	nw.		
Blue Canyon.	Placer.	4,895	11	53.2	+ 6.1	79	25	29	32	1.48	-2.29	1.00	0.0	3	21	3	6	s.			
Blythe.	Riverside.		69.8			106	24	42	2†	55	0.18		0.18	0.0	1	26	3	1	s.		
Branciscomb.	Mendocino.	3,000	10	52.2		87	23†	31	3	52	2.50	-2.41	1.05	0.0	7	15	10	5	n.		
Brawley.	Imperial.	-105	1	72.8		108	24	43	1	52	T.		T.	0	0	22	6	2	w.		
Brush Creek.	Butte.	2,140	6	56.3		92	24	36	14†	67	1.47		0.65	0.0	3	16	11	3	s.		
Calexico.	Imperial.	9	57.8			104	24	48	16	45	0.00		0.00	0.0	0	27	3	0	nw.		
Caliente.	Kern.	1,290	34	73.3	+12.4	102	24†	51	12	60	0.70	-0.69	0.70	0.0	1	27	0	3	...		
Calistoga.	Napa.	363	38	54.2	-3.6	87	19	40	7†		1.14	-1.74	0.85	0.0	4	22	0	8	w.		
Campbell.	Santa Clara.	217	13	56.0	+ 1.3	89	23	34	29	47	0.17	-0.79	0.09	0.0	2	15	4	11	nw.		
Camptonville (near).	Yuba.	3,500	3	59.8		98	23	36	4†	44	1.48		0.90	0.0	7	17	5	8	...		
Cedarville.	Modoc.	4,675	16	54.0	+11.7	90	24	21	4	48	0.70	-0.30	0.32	0.0	2	24	6	0	sw.		
Chico.	Butte.	189	40	61.0	-0.6	92	23	36	29	45	0.23	-1.56	0.23	0.0	1	22	2	6	s.		
China Flat.	Humboldt.	600	1	61.9		98	24	35	14	53	0.44		0.25	0.0	2	12	13	5	s.		
Chino.	San Bernardino.	714	18	67.4	+ 6.6	99	23	46	2†	48	0.26	-0.13	0.26	0.0	1	21	1	8	w.		
Cisco.	Placer.	5,939	39	45.9	+ 8.6	71	26	36	4		0.50	-3.84	0.50	5.6	1	23	0	5	sw.		
Claremont.	Los Angeles.	1,200	18	63.7	+ 6.6	101	23	40	29	47	0.23	-0.25	0.18	0.0	4	17	9	4	w.		
Cloverdale.	Sonoma.	340	8	57.2*		93	23	36	7	44†	1.02		1.00	0.0	2						
Colfax.	Placer.	2,421	39																		
Colusa.	Colusa.	60	7	63.0		88	23	45	11	33	0.17	-1.25	0.09	0.0	2	25	0	5	sc.		
Corning.	Tehama.	277	24	67.1	+ 6.8	86	23†	52	3†		0.46	-1.16	0.35	0.0	2	25	0	5	n.		
Cuyamaca (1).	San Diego.	4,677	11	54.8	+10.9	81	21†	32	11†	30	0.92	-2.92	0.80	1.0	3	13	10	5	e.		
Daut.	Tulare.	4,000	3	56.2		93	24	31	12	68	0.00	-0.60	0.0	0	3	18	4	8	...		
Davisierville.	Yolo.	51	38	58.0	-2.8	91	24	24	14	48	0.13	-1.26	0.13	0.0	1	11	4	5	s.		
Deer Creek.	Nevada.	3,700	3	52.3		84	24	31	29	44	2.92		1.24	0.0	6	14	14	2	...		
Delta.	Shasta.	1,138	25	64.4	+ 7.0	91	25	40	3†	45	2.14	-3.87	1.20	0.0	3	21	0	9	s.		
Demair.	Stanislaus.	128	10	62.6	+ 6.3	102	25	40	29	52	0.72	-0.27	0.56	0.0	3	22	3	6	n.		
Dobbins.	Yuba.	1,650	6	62.1		92	23†	42	12†	46	0.81		0.38	0.0	5	17	10	3	s.		
Dudleys.	Marietta.	3,000	1	53.2		85	23†	32	1†	47	2.07		1.42	0.0	4	20	6	4	n.		
Dunnigan.	Yolo.	65	33	68.8	+ 6.4	95	24	50	28		0.54	-1.00	0.54	0.0	1	24	2	4	n.		
Dunsmuir.	Siskiyou.	2,295	21	56.6	+ 7.1	98	15	40	3		1.81	-2.91	1.27	0.0	3	20	10	10	n.		
Durham.	Butte.	160	15	50.4	+ 2.2	90	24	37	12	43	0.20	-1.83	0.18	0.0	2	20	8	2	s.		
El Cajon.	San Diego.	482	11	62.2	+ 4.0	102	23	38	2†	58	0.24	-0.45	0.13	0.0	4	25	2	3	sw.		
Electra.	Amador.	725	6	62.0		101	24	40	12	42	1.23		0.68	0.0	3	19	8	3	...		
Elsinore.	Riverside.	1,234	15	61.4	-0.3	104	23	26	1	64	0.35	-0.09	0.35	0.0	1	25	0	5	w.		
Emigrant Gap.	Placer.	5,230	36	54.4	+11.9	78	24	30	11	26	1.08	-3.91	0.85	0.0	2	16	5	9	w.		
Escondido.	San Diego.	657	16	62.2	+ 3.9	103	23	35	1†	59	0.58	-0.87	0.42	0.0	3	6	22	2	w.		
Eureka.	Humboldt.	64	24	50.5	+ 1.0	65	10	35	3	18	0.83	-3.45	0.29	0.0	10	8	14	1	n.		
Farmington.	San Joaquin.	111	31	62.2	+ 3.1	85	25	33	1†	35	1.87	-1.67	0.05	0.0	4	18	11	1	nw.		
Folsom.	Sacramento.	252	38	62.4	+ 0.7	98	24	40	12†	45	0.57	-1.65	0.28	0.0	4	25	6	4	s.		
Fordyce Dam.	Nevada.	6,500	15	41.8		65	22	23	2	34	1.94	-2.94	0.90	7.0	5	14	12	4	sw.		
Fouts Springs.	Fresno.	1,650	23	55.6		85	23†	30	8†	42	1.04		0.58	0.0	2	20	1	9	sw.		
Fresno.	Fresno.	293	23	65.2	+ 4.0	101	24	44	3	43	0.27	-1.07	0.22	0.0	3	15	13	2	nw.		
Fruto.	Glen.	624	21	60.5	+ 1.6	90	24	40	3	T.		-1.53	T.	0.0	0	20	10	0	s.		
Galt.	Sacramento.	49	37	57.8	+ 3.4	75	28	41	1†	33	0.17	-1.54	0.12	0.0	2	24	2	4	w.		
Georgetown.	El Dorado.	2,650	37	57.4	+ 2.0	87	24	34	12	33	1.88	-4.10	0.83	0.0	6	23	0	7	se.		
Gilroy.	Santa Clara.	193	36																		
Gold Run.	Placer.	3,222	11	58.2	+ 5.1	85</td															

TABLE 1.—Climatological data for April, 1910. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
California—Cont'd.																			
Long Pine.	Inyo.	2,728	5	57.0		90	30	31	1	51	0.20		0.20	0.0	1	24	4	2	s.
Long Valley.	Lassen.	4,400	1	52.6		85	23	24	4	44	0.27		0.25	0.0	2	11	11	8	sw.
Los Angeles.	Los Angeles.	293	33	63.6	+ 6.0	100	23	47	12	35	0.30	- 1.06	0.30	0.0	1	15	10	5	sw.
Los Banos.	Merced.	121	23	65.8	+ 2.4	91	23	54	27		0.00	- 0.61	0.00	0.0	0	23	6	7	n.
Los Gatos.	Santa Clara.	600	23	57.4	+ 1.4	94	23	34	30	46	0.36	- 1.83	0.26	0.0	2	27	2	1	nw.
Lytle Creek.	San Bernardino.	2,900	1	60.24		94 <sup>a</sup>	23	31 <sup>a</sup>	3	43 <sup>a</sup>	0.42		0.37	0.0	0	16	3	11	sw.
Maddoc.	Siskiyou.	4,258	3	42.4 <sup>a</sup>		80 <sup>a</sup>	17	9 <sup>a</sup>	4	61 <sup>a</sup>	1.05		0.60	0.0	4	13	11	6	s.
Madeline.	Lassen.	5,270	1	44.4		84	24	20	4	52	0.32		0.28	0.0	2	19	6	5	sw.
Magalia.	Butte.	2,321	6	57.0		91	24	34	11	41	1.17		0.98	0.0	3	22	4	4	se.
Mammoth Tank.	Imperial.	257	32	75.2	- 0.2	106	24	49	27	48	0.00	- 0.06	0.00	0.0	0	30	0	0	w.
Marysville.	Yuba.	67	39																
Mecca.	Riverside.	- 185	4	73.2		104	24	42	27	48	0.09		0.00	0.0	0	25	7	0	nw.
Menlo Park.	San Mateo.	64	32	59.8	+ 2.7	88	23	44	5 <sup>a</sup>		0.18	- 1.32	0.18	0.0	1	20	0	10	n.
Merced.	Mered.	173	36																
Mill Creek (1).	Amador.	3		54.3		85	24	34	12	40	1.61		0.97	0.0	4	21	4	5	n.
Milton (near).	Calaveras.	660	19	63.4	+ 4.8	93	24	42	13	33	0.68	- 1.34	0.34	0.0	3	20	8	2	nw.
Modest.	Stanislaus.	90	38	63.0	- 0.2	92	24	44	6		0.00	- 0.92	0.00	0.0	0	24	0	6	
Mojave.	Kern.	2,751	33																
Mokelumne Hill.	Calaveras.	1,550	17	59.8	+ 7.4	92	24	40	12	31	1.08	- 2.10	0.50	0.0	4	18	0	12	
Mono Ranch.	Ventura.	3,210	4	55.8		86	23	35	11	42	0.15		0.08	0.0	2	25	3	2	w.
Montague.	Siskiyou.	2,450	22																
Monterey.	Monterey.	15		62.1	+ 6.3	86	22	50	51		0.47	- 1.12	0.31	0.0	2	26	3	1	e.
Monterio.	Kern.	4,500	11	54.1	+ 1.9	82	25	32	12	36	0.57	- 1.42	0.55	0.0	2	22	4	4	nw.
Monumental.	Del Norte.	5		50.1		86	22 <sup>a</sup>	29	21	44	3.49		0.96	0.0	9	18	0	12	
Mount Tamalpais.	Marin.	2,375	11	54.0	+ 4.5	83	23	37	11	24	0.68	- 1.32	0.40	0.0	6	15	7	8	nw.
Napa City.	Napa (S. H.).	20	33	56.6	+ 0.7	91	21	37	3 <sup>a</sup>	45	0.54	- 1.70	0.29	0.0	2	18	11	1	s.
Napa (S. H.).	do.	60	32	58.2	+ 2.3	90	23	40	71	41	0.37	- 1.90	0.25	0.0	2	14	13	3	sw.
Needles.	San Bernardino.	477	18	74.8	+ 2.6	103	28	47	1	47					28	1	1	w.	
Nellie.	San Diego.	5,350	1																
Nevada City.	Nevada.	2,580	18	55.4	+ 5.6	94	24	30	4	52	1.72	- 2.98	0.94	0.0	6	21	0	9	sw.
Newcastle.	Placer.	970	17	63.4	+ 10.2	97	24 <sup>a</sup>	34	6	51	1.17	- 1.12	0.50	0.0	4	15	13	2	se.
Newhall.	Los Angeles.	1,200	33	80.6	+ 1.7	102	24	42	3		0.37	- 0.68	0.37	0.0	1	28	0	4	ne.
Newman.	Stanislaus.	91	21	63.6	+ 0.5	96 <sup>a</sup>	24	40	11	48	0.18	- 0.66	0.09	0.0	3	21	0	9	n.
Nimshew.	Butte.	2,500	6	50.2		89	24	36	4	40	0.94		0.50	0.0	3	24	2	4	
North Bloomfield.	Nevada.	3,200	13																
North Fork.	Madera.	3,000	6	57.2		93	24	31	12	47	0.98		0.49	0.0	3	15	11	4	sw.
Oakdale.	Stanislaus.	156	18	60.9	+ 1.6	95	23 <sup>a</sup>	44	4		0.34	- 1.00	0.18	0.0	4	23	2	5	nw.
Oakland.	Alameda.	38	34	59.0	+ 3.6	84	22 <sup>a</sup>	46	12	35	0.27	- 1.73	0.14	0.0	4	16	9	5	w.
Oceanside.	San Diego.	64.0				89	22	47	1	29	0.07		0.06	0.0	2	15	4	3	sw.
Ojai Valley.	Ventura.	600	4	61.2		100	23	37	13	54	0.26		0.18	0.0	2	23	4	3	sw.
Orland.	Glenn.	254	28	63.0	- 0.4	96	23	41	2	43	0.12	- 1.29	0.12	0.0	1	25	2	3	se.
Orleans.	Humboldt.	520	7	63.5		101	24	36	4	53	0.88		0.50	0.0	7	17	6	7	
Oroville (near).	Butte.	250	26	63.6	+ 2.9	95	22 <sup>a</sup>	40	11	45	0.26	- 2.01	0.26	0.0	1	18	6	6	s.
Palermo.	do.	213	19	61.4	+ 2.9	96	23	37	11	49	T.	- 1.66	T.	0.0	0	17	12	1	s.
Palm Springs.	Riverside.	584	21	73.2	- 1.4	104	24	50	10		0.00	- 0.00	0.30	0.0	2	23	3	2	sw.
Pasadena.	Los Angeles.	827	20	62.8	+ 2.7	101	20	49	12	50	0.32	+ 0.04	0.30	0.0	2	25	2	2	sw.
Paso Robles.	San Luis Obispo.	800	23	59.4	+ 1.5	98	24	35	16	54	0.22	- 0.38	0.16	0.0	4	20	8	2	sw.
Peachland.	Sonoma.	190	14	56.4	+ 0.2	93	23	34	7 <sup>a</sup>	47	0.81	- 1.40	0.38	0.0	4	20	8	2	sw.
Penstock Camp.	Tuolumne.	3,750	3	58.0		86	24	36	11	33	1.46		0.78	0.0	4	21	3	3	n.
Placerville.	El Dorado.	1,875	21	54.8	+ 3.7	84	24	36	4	41	0.17	- 3.74	0.53	0.0	3	23	3	4	sw.
Point Lobos.	San Francisco.	250	17	56.2	+ 4.2	84	23	46	18	38	0.14	- 0.98	0.08	0.0	4	13	7	10	nw.
Point Reyes.	Marin.	400	18	51.5	+ 1.3	83	22	44	24	38	0.39	- 1.18	0.20	0.0	6	10	9	11	nw.
Porterville.	Tulare.	484	21	65.3	+ 1.3	101	15	44	30	45	0.34	- 0.18	0.28	0.0	2	14	14	2	sw.
Quincy.	Plumas.	3,400	15	55.4	+ 7.8	81	24	24	41	55	T.	- 2.63	T.	0.0	0	25	3	2	sw.
Red Bluff.	Tehama.	307	33	63.0	+ 3.9	92	23	43	3	38	0.15	- 2.01	0.15	0.0	2	18	6	5	se.
Redding.	Shasta.	552	35	63.4	+ 3.2	88	23 <sup>a</sup>	42	3	34	0.32	- 2.69	0.10	0.0	5	18	3	9	n.
Redlands.	San Bernardino.	1,352	17	64.2	+ 3.1	100	23	41	12	48	0.25	- 0.30	0.23	0.0	1	15	10	5	w.
Reedley.	Fresno.	347	10	60.6	+ 4.9	104	24	43	29	52	0.30	- 1.20	0.23	0.0	2	20	5	5	se.
Rialto (near).	San Bernardino.	2,250	4	65.2		98	24	45	30	29	0.43		0.28	0.0	2	23	2	5	se.
Riverside.	Riverside.	851	28	63.3	+ 2.0	103	23	41	11	51	0.18	- 0.15	0.17	0.0	2	20	1	9	sw.
Rocklin.	Placer.	249	38	62.6	+ 2.2	95	24	42	41	39	0.83	- 1.04	0.45	0.0	4	21	2	7	se.
Rohnerville.	Humboldt.	75	7	52.4		68	22	34	6	28	1.01		0.33	0.0	4	15	5	10	n.
Sacramento (1).	Sacramento.	71	33	60.8	+ 2.8	88	24	44	29	32	0.11	- 2.17	0.10	0.0	2	18	8	3	s.
Sacramento (2).	do.	35	57	61.2	+ 1.9	87	24	42	4	31	0.18	- 1.57	0.15	0.0	3	28	8	4	sw.
St. Helena.	Monterey.	255	2	58.6		93	23	35	7	45	0.57		0.47	0.0	2	19	3	8	n.
Salinas.	Monterey.	40	36	59.4	+ 3.6	98	23	38	29	44	0.19	- 1.14	0.17	0.0	2	24	6	0	w.
San Bernardino.	San Bernardino.	1,054	18	64.0	+ 4.5	103	23 <sup>a</sup>	37	11	50	0.14	- 1.10	0.13	0.0	2	17	9	4	sw.
San Diego.	San Diego.	93	39	61.7	+ 3.5	96	23	47	2	34	0.08	- 0.68	0.68	0.0	2	20	5	5	nw.
San Francisco.	San Francisco.	207	39	57.1	+ 3.4	87	23	46	18	32	0.31	- 1.66	0.23	0.0	4	20	5	5	w.
San Jacinto.	San Jacinto.	1,550	17	64.8	+ 7.5														

TABLE I.—Climatological data for April, 1910. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.				
<i>California—Cont'd.</i>																			
Summit.....	Placer.....	7,017	37	43.4	+ 7.9	71	25	24	29	29	0.68	- 4.51	0.60	8.0	2	20	2	8 sw.	
Susanville.....	Lassen.....	4,175	21	49.4	+ 2.1	83	24†	20	5	46	0.08	- 1.29	0.07	0.0	2	17	13	0 sw.	
Tamarack.....	Alpine.....	8,000	4	49.2	.....	69	19	11	30	49	0.62	.....	0.40	5.0	2	21	6	3 sw.	
Tehachapi.....	Kern.....	3,964	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	
Tohama.....	Tehama.....	220	39	72.4	+11.7	87	24	61	12	.....	0.18	- 1.26	0.18	0.0	1	25	0	5 n.	
Three Rivers.....	Tulare.....	870	24	62.6	.....	99	24	40	31	51	0.54	.....	0.53	0.0	2	16	7	2 sw.	
Towle.....	Placer.....	3,704	24	53.6	+ 3.5	85	24	32	29	39	2.27	.....	2.26	1.20	0.0	3	24	4	2 s.
Tracy.....	San Joaquin.....	64	30	60.4	- 0.5	86	23	48	2†	.....	0.00	- 0.95	0.00	0.0	0	21	5	4 nw.	
Ukiah.....	Mendocino.....	630	17	58.8	+ 3.8	92	23	34	7	50	0.86	- 1.93	0.60	0.0	2	14	14	2 nw.	
Upland.....	San Bernardino.....	1,750	13	62.0	+ 4.6	98	24	39	12†	46	0.20	- 1.00	0.20	0.0	1	18	10	2 w.	
Upper Lake.....	Lake.....	1,350	25	56.2	+ 1.6	87	24	38	3†	39	0.58	- 1.35	0.39	0.0	3	21	4	5 nw.	
Vacaville.....	Solano.....	175	22	59.8	+ 0.8	92	23	37	12	45	0.21	- 2.23	0.18	0.0	2	17	12	1 sw.	
Valley Springs.....	Calveras.....	873	21	66.3	+ 6.1	92	23	53	11†	.....	0.59	- 1.54	0.30	0.0	2	20	7	3 nw.	
Visalia.....	Tulare.....	334	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.	
Warner Springs.....	San Diego.....	3,165	2	59.0	.....	91	24	36	1	43	0.12	.....	0.12	0.0	1	.....	.....	Mrs. E. F. Sanford.	
Wasco.....	Kern.....	336	10	59.2	0.0	98	24	31	11†	49	0.16	- 0.45	0.16	0.0	1	27	0	3	
Watsonville.....	Santa Cruz.....	23	14	59.6	+ 3.0	88	22	45	4†	42	0.31	- 1.38	0.22	0.0	2	11	12	7 w.	
Westley.....	Stanislaus.....	90	21	67.9	+ 3.7	92	23†	52	11	.....	0.00	- 0.67	0.00	0.0	0	27	0	3 n.	
Wheatland.....	Yuba.....	84	23	60.5	+ 2.1	88	23†	40	4†	37	0.25	- 1.19	0.20	0.0	3	15	6	9 s.	
Willows.....	Glenn.....	136	31	61.0	+ 0.7	89	23	41	3	36	0.16	- 1.18	0.15	0.0	2	19	2	9 se.	
Yosemite.....	Mariptosa.....	3,945	6	53.0	.....	89	22	28	4†	54	1.15	.....	0.73	0.0	4	14	16	0 sw.	

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

\* Precipitation included in that of the next measurement.

\*\* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

¶ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

\*\* Estimated by observer.

|| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for April, 1910. District No. 11, California.*

TABLE 2.—*Daily precipitation for April, 1910. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for April, 1910. District No. 11—Continued.*

TABLE 2—*Daily precipitation for April, 1910. District No. 11—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations for April, 1910. District No. 11, California.

Date.	Lakerew, Ore.		California.																				Porterville.		Red Bluff.	
			Alturas.		Bartow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamal-		Nevada City.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	61	29	56	29	80	38	59	38	90	43	73	50	54	46	80	50	72	37	83	53	58	43	67	36	81	48
2...	64	31	50	38	81	49	47	38	90	47	68	50	52	43	72	48	72	38	68	53	49	41	57	39	81	48
3...	65	33	50	24	76	50	62	31	84	59	65	50	51	33	68	44	75	42	63	55	57	37	69	33	76	43
4...	64	27	68	18	77	42	70	35	83	55	68	48	58	40	78	48	66	35	74	54	55	45	74	38	77	46
5...	64	18	67	23	76	50	67	37	81	50	68	46	51	45	73	50	65	35	64	54	55	45	74	38	69	52
6...	65	31	61	40	70	42	63	32	82	58	69	50	53	42	72	53	68	39	64	53	55	46	67	41	70	53
7...	59	39	68	30	75	45	65	30	87	52	69	47	57	40	77	47	62	39	66	48	59	46	71	35	82	48
8...	70	32	71	28	85	47	63	32	90	56	71	48	57	44	82	45	76	41	65	51	60	48	72	37	81	50
9...	61	32	67	33	86	47	64	36	90	60	70	49	60	48	81	48	76	45	64	54	57	43	71	38	81	48
10...	64	45	61	32	87	48	56	40	91	53	66	53	65	50	72	48	75	43	64	53	45	41	60	37	76	49
11...	65	33	60	30	73	46	58	39	76	55	62	45	60	48	64	47	64	41	60	50	45	37	54	37	67	52
12...	63	32	65	23	84	42	61	34	76	48	73	48	53	47	70	45	67	36	64	47	60	43	68	31	68	47
13...	60	23	61	23	84	44	64	37	81	48	76	49	52	47	74	49	76	42	65	53	64	48	71	34	76	53
14...	62	39	61	18	83	50	70	34	86	51	75	57	53	41	77	50	64	48	65	50	78	33	79	47	76	54
15...	68	24	74	20	76	53	79	40	80	54	79	53	57	42	83	49	76	44	74	51	72	59	80	33	92	51
16...	74	31	79	25	84	38	78	39	86	43	78	55	54	48	88	52	77	44	82	55	71	61	80	37	92	47
17...	78	39	83	25	88	43	75	38	94	48	82	65	63	45	93	55	81	42	90	57	74	61	83	42	91	53
18...	80	39	82	30	97	46	75	43	102	50	82	58	54	46	95	55	84	44	94	55	70	54	84	41	93	55
19...	79	50	78	42	99	48	79	38	101	53	76	55	56	48	94	53	83	52	71	49	55	42	73	43	85	46
20...	67	36	64	36	86	51	79	38	95	64	71	46	56	49	75	48	77	52	73	49	59	42	68	39	86	45
21...	71	31	77	24	88	45	84	36	97	59	81	56	53	49	86	50	79	45	87	56	69	53	80	36	94	50
22...	80	30	83	27	90	42	87	35	100	55	84	58	55	48	95	52	79	45	99	64	79	64	89	41	100	56
23...	82	39	85	32	98	46	87	47	104	54	88	55	55	46	100	57	83	44	100	67	83	68	93	41	101	58
24...	86	40	87	28	96	48	86	46	106	58	87	68	53	46	101	63	86	44	90	59	77	53	94	42	93	56
25...	90	45	82	32	99	52	71	34	103	57	83	56	60	48	91	55	86	44	76	51	58	40	86	45	77	50
31...	71.2	35.9	68.7	29.0	85.0	47.3	67.8	36.7	91.2	54.3	73.7	52.2	55.5	45.4	80.1	50.3	75.8	43.9	73.7	53.4	60.8	47.1	72.8	37.9	80.6	50.0
Mns.	71.2	35.9	68.7	29.0	85.0	47.3	67.8	36.7	91.2	54.3	73.7	52.2	55.5	45.4	80.1	50.3	75.8	43.9	73.7	53.4	60.8	47.1	72.8	37.9	80.6	50.0

Date.	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Ross.		Stockton.		Summit.		Susanville.		Yosemite.				
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1...	81	46	69	50	77	54	61	50	70	45	78	45	78	47	72	40	50	31	65	50	42	30	68	34	69	30	
2...	78	45	63	48	59	47	57	49	63	43	63	51	78	47	68	39	49	39	60	48	45	35	68	23	67	30	
3...	62	54	64	48	60	54	62	48	66	46	61	43	65	52	72	36	50	35	59	44	46	34	50	21	66	31	
4...	80	47	69	47	64	55	74	50	75	41	68	43	67	52	72	34	49	31	67	38	35	27	59	26	64	28	
5...	67	47	68	54	63	55	61	52	67	46	57	51	62	54	66	39	51	31	68	47	53	38	56	20	64	40	
6...	59	48	66	50	63	53	57	50	65	46	61	49	61	53	60	46	59	36	67	47	53	35	61	41	72	33	
7...	75	43	69	46	63	51	57	48	64	40	74	47	67	63	64	44	66	34	69	43	53	36	73	36	68	36	
8...	80	45	71	45	61	52	60	49	66	45	70	43	68	53	64	40	64	44	67	44	67	44	57	29	75	35	
9...	73	53	70	48	62	55	58	50	66	47	58	48	66	60	64	41	64	43	67	44	67	44	53	30	70	35	
10...	72	47	59	51	61	52	58	51	61	47	56	48	63	76	75	46	83	41	60	31	77	48	32	65	26	80	33
11...	57	48	61	46	61	54	54	48	56	47	55	44	63	51	58	45	50	30	66	47	42	28	54	34	55	33	
12...	63	41	71	47	61	49	62	49	66	46	58	43	70	47	67	49	50	30	67	45	48	30	67	32	64	28	
13...	66	48	75	49	63	52	64	50	72	41	70	45	64	60	68	44	64	40	61	33	68	45	52	32	70	30	
14...	71	51	73	53	62	53	71	50	74	41	73	48	65	43	78	40	60	31	68	43	52	34	60	29	78	32	
15...	82	48	79	54	71	55	79	53	82	43	76	48	75	46	83	41	60	31	77	48	48	32	65	26	80	33	
16...	85	47	80	53	76	52	76	49	82	43	80	45	80	47	80	41	68	38	82	50	55	32	76	33	81	33	
17...	93	48	81	57	79	55	74	47	84	47	76	43	80	46	83	43	72	35	83</								